

## KLB-SYSTEM EPOXID EP 200 EL+

Electrically conductive 2-component epoxy resin coating

### Packaging units



| Article no. | Packaging     | Content (kg) | Units/pallet |
|-------------|---------------|--------------|--------------|
| AK1238-50   | Bucket combo  | 12.00 kg     | 30           |
| AK1238-30   | Hobbock combo | 30.00 kg     | 12           |

### Product characteristics

|                              |  |
|------------------------------|--|
| Mixing ratio parts by weight | A : B = 5 : 1  |
| Mixing ratio parts by volume | A : B = 100 : 31   |
| Processing time              | 10 °C / 50 °F : 50 min.<br>20 °C / 68 °F : 30 min.<br>30 °C / 86 °F : 20 min.                    |
| Processing temperature       | Minimum 10 °C / 50 °F (room and floor temperature)   |
| Curing time (accessibility)  | 10 °C / 50 °F : 24 - 36 hrs.<br>20 °C / 68 °F : 14 - 18 hrs.<br>30 °C / 86 °F : 10 - 14 hrs.     |
| Curing                       | 2 - 3 days until mechanical load at 20 °C / 68 °F<br>7 days until chemical load at 20 °C / 68 °F |
| Further coatings             | After 14 - 18 hours, but after 48 hours at the latest at 20 °C / 68 °F                           |
| Consumption                  | Approx. 1.9 - 2.4 kg/m <sup>2</sup>  |
| Layer thickness              | 1.3 - 1.5 mm   |
| Addition of quartz sand      | Not permissible  |
| Packaging                    | Bucket combo 12 kg, Hobbock combo 30 kg  |
| Colours                      | KLB standard colours – see chart. Other colours upon request!                                    |
| Shelf life                   | 6 months (originally sealed)   |

### Product description

**KLB-SYSTEM EPOXID EP 200 EL+** is an electrically conductive and coloured self-levelling coating on the basis of a 2-component epoxy resin. Due to the special conductive fibre technology, the product can be manufactured in light, pleasant colours instead of the otherwise usual dark colours of conductive coatings.

The cured coating is especially suitable for commercially or industrially used areas where an electrically conductive coating is required, like warehouse areas with fork lift traffic, for the prevention of static charge of equipment and personnel, for floors with requirements to explosion protection, e.g. in areas with flammable material like laboratories, chemical-technical production and storage areas, as well as the electronics and electro technical industry. Electronic engineering (ESD areas) require special additional procedures and very accurate processing. Consider special standards. Obtain advice.

**KLB-SYSTEM EPOXID EP 200 EL+** has good resistance to mechanical wear and chemicals, e.g. alkalis, oil, grease, water, salt solutions and various acids. Due to the conductive adjustment and for technical reasons, colour tone irregularities may appear.

#### Area of application

- For electrically conductive, commercially used areas with medium mechanical load, e.g. production or storage areas in many economic sectors.
- In the electronic and electro-technical industry also for ESD areas, when used in combination with special sealers **PU 813 EL+/ESD**, **PU 813 EL+/ESD-R10** or **PU 881 EL+**.
- In areas with special requirements to explosion protection to prevent any electrostatic discharge.

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#### Product features

- Total Solid according to GISCODE (Test method "Deutsche Bauchemie")
- electrically conductive
- light, coloured surfaces
- good resistance range
- consistent to hydrolysis and saponification
- resistant to abrasion and wear

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#### Technical data

|                           |   |                   |                                      |
|---------------------------|---|-------------------|--------------------------------------|
| Viscosity - Component A+B | 2000 - 2500   | mPas              | DIN EN ISO 3219 (23 °C / 73.4 °F)    |
| Solid content             | > 99  | %                 | KLB method                           |
| Density - Component A+B   | 1.45  | kg/l              | DIN EN ISO 2811-2 (20 °C / 68 °F)    |
| Weight loss               | < 0.1   | weight-%          | after 28 days                        |
| Water absorption          | < 0.2   | weight-%          | DIN 53495                            |
| Bending tensile strength  | 27  | N/mm <sup>2</sup> | DIN EN 196/1                         |
| Compressive strength      | 60  | N/mm <sup>2</sup> | DIN EN 196/1                         |
| Shore-hardness D          | 80  | -                 | DIN 53505 (after 7 days)             |
| Abrasion (Taber Abraser)  | 50  | mg                | ASTM D4060 (CS10/1000)               |
| Electrical resistance     | (in combination with EP 799 Ableitgrund)<br>approx. 10 <sup>6</sup> | Ohm               | DIN EN 61340-4-1 DIN IEC 61340-5-1/2 |

The values established in tests are average values. Deviations from the product specification may occur.

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#### Included in systems

- [System F1 - KLB CONDUCTIVE EP EX Standard](#)

Please visit our website to get more information about our KLB systems: [www.klb-koetztal.com](http://www.klb-koetztal.com)

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#### Tests

The following external test certificates are available:

- Slip-resistance grade R9 possible, according to DIN 51130 and BGR 181.
- Slip-resistance grade R10 possible with **PU 881 EL+ R10**, according to DIN 51130 and BGR 181.
- Fulfils ESD requirements when used in combination with **PU 881 EL+** and **EP 799 Ableitgrund**.
- Product is compliant with DIN EN 13813: 2003-01.

**Note:**

Please ask for the tested system build-up!

#### Build-up of coats

- Apply a base and scratch coat for an even substrate, e.g. with **EP 50**.
- Glue copper bands for discharge in an imagined grid-pattern in place into the room – every 6 - 8 m, up to 1 - 2 m. Earth connection by an electrician based on VDE regulations.
- Apply a conductive coat with approx. 0.150 kg/m<sup>2</sup> of **EP 799 Ableitgrund**.
- Apply the conductive wearing layer **EP 200 EL+** with a toothed trowel (**Toothed blade RS 4** or Pajarito 48), consumption approx. 1.9 - 2.4 kg/m<sup>2</sup>.
- Optional: sealing with **PU 813 EL+/ESD**, **PU 813 EL+/ESD-R10** or **PU 881 EL+** for producing a colour-stable top coat or ESD suitable surfaces.

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#### Substrate

The substrate to be coated must be even, dry, free of dust, sufficiently resistant to tension and compression as well as be free from weakly-bonded components or surfaces. Materials impairing adhesion such as grease, oil and paint residues should be removed with suitable measures. Observe the information issued by the trade associations, e.g. the most recent versions of BEB worksheets KH-0/U and KH-0/S as well as the notes provided in the product information for the recommended base coats, like **EP 30**, **EP 50**, **EP 51 RAPID S**, and **EP 52 Spezialgrund**. The substrates to be coated should be prepared mechanically, preferably by shot blasting. The prepared area must be saturated, pore-free and primed carefully. It is often difficult to judge the necessary pore-free condition of substrates. It is therefore recommended that a scratch coat be applied to smooth the surface. Conductive coatings must be applied in the required layer thickness, it is thus mandatory to prepare the substrate thoroughly.

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#### Mixing

Combo-packaging will be supplied in the correctly measured mixing ratio. the package of Component A has sufficient volume to contain the entire packaging unit. Empty all of the hardener compound B into the resin. Blend with a slow speed mixer (200 - 400 r/pm) for at least 2 - 3 minutes until a homogeneous, streak-free compound forms. To prevent mixing errors, empty ("repot") the resin/hardener mixture into a clean container and mix it once again briefly.

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#### Processing

Process the material immediately after mixing with a squeegee or toothed trowel (e.g. **Toothed blade RS 4** or Pajarito 48) by pulling out an even layer on the prepared substrate. The product is adjusted for optimum deaeration, however, for conductive coatings, rolling with a spiked roller is mandatory to optimise the conductivity. Rolling with the spiked roller should be done after a delay of 10 - 15 minutes. In order to work seamlessly, always work "fresh-in-fresh" and define work areas before starting. Scattering is not recommended for conductive coatings as the conductivity is then reduced.

Check consumption during application, as it may be reduced by wear of the teeth on the toothed blade. If the blade is worn, it must be replaced by the applicator in order to maintain the recommended consumption quantities.

Floor and air temperature must not fall below 10 °C / 50 °F and humidity should not exceed 75 %. The difference in floor and room temperature must remain less than 3 °C / 5.4 °F so as not to impede the curing process. If a dew-point situation arises, regular curing will not be possible with hardening problems and spotting to occur. Exposure to water should be avoided during the first 7 days. The specified curing times apply for 20 °C / 68 °F; temperatures below this require longer processing and curing times, while higher temperatures require shorter times.

If working conditions are not complied with, the technical properties of the end product may deviate from those specified (surface and load capacity).

**Cleaning**

To remove fresh contamination and to clean tools, use **VR 24** or **VR 33** immediately. Hardened material can only be removed mechanically.

Separate cleaning and care recommendations are available for cleaning floors produced with KLB coatings and sealers.

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**Storage**

Store in dry and if possible, at frost-free conditions. Ideal storage temperature is between 10 °C - 20 °C / 50 °F - 68 °F. Bring to a suitable processing temperature before application. Tightly re-seal opened packages and use up the content as soon as possible.

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**Special remarks**

The product is regulated by the German Ordinance on Hazardous Substances (GefStoffV), the German Ordinance on Industrial Safety and Health (BetrSichV), and transport regulations for hazardous goods. The necessary information is contained in the DIN Safety Data Sheet. Observe all identification information on the container label!

GISCODE: RE90

**Indication of VOC-content:**

(EG-Regulation 2004/42) Maximum Permissible Value 500 g/l (2010,II,j/lb): Ready-for-use product contains < 500 g/l VOC.

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**CE marking**

|  |                     |
|--|---------------------|
| <b>CE</b>  |                     |
| KLB Kötztal Lacke + Beschichtungen GmbH<br>Günztalstraße 25<br>FRG-89335 Ichenhausen |                     |
| 13   |                     |
| EP200EL+-V1-022013   |                     |
| DIN EN 13813:2003-01   |                     |
| Synthetic resin screed mortar<br>DIN EN 13813: SR-B1.5-AR0.5-IR10                    |                     |
| Fire behaviour   | E <sub>fl</sub> -s1 |
| Emission of corrosive substances   | SR                  |
| Wear resistance BCA  | AR 0.5              |
| Adhesive tensile strength  | B 1.5               |
| Impact resistance  | IR 10               |



Please consider the latest version of this product information on our website.

All stated information is based on our experience and technical preparation. We guarantee the correct and proper quality of our products. We do not assume any responsibility for the work not carried out by us, since we have no influence on the processing or processing conditions. We recommend on-site trials to be conducted in individual cases. With the publication of this new KLB product information, all prior information loses validity. The latest version is available electronically on our website [www.klb-koetztal.com](http://www.klb-koetztal.com). In addition, our "General Terms and Conditions" apply.